

ADDITIONS TO THE PLEISTOCENE FLORA OF NORTH CAROLINA*

BY EDWARD W. BERRY

In a previous paper the writer enumerated thirty-eight species, mostly forms which still exist, from the Pleistocene deposits of North Carolina.† Considerable new material, for the most part unstudied as yet, has since been obtained, from which the following have been selected for enumeration at the present time.

Juglandales

HICORIA AQUATICA (Michx. f.) Britton

Salix sp., Berry Journ. Geol. **15**: 340. 1907.

Additional material has made possible the certain correlation of the specimen previously listed as a willow with this species of hickory. In the modern flora it is a denizen of low river banks and swamps from Virginia to Florida and westward in the Gulf region to Texas. It has not hitherto been found as a fossil, Station 850, Neuse River.

Fagales

QUERCUS MICHAUXII Nutt.

This occurrence is based upon fragments of leaves and characteristic acorn cups. In the modern flora it inhabits low, wet situations from Delaware to Florida and westward, but has not been previously obtained in the fossil state.

Station 850, Neuse River.

Ranales

LIRIODENDRON TULIPIFERA Linné

Berry, Amer. Nat. **41**: 695. 1907.

Winged carpels of this species were recently recorded by the writer from the Pleistocene of Alabama, but leaves have not been previously recorded from American strata younger in age than the Cretaceous, although the genus is common in the Arctic and Eura-

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† Berry. Journ. Geol. **15**: 338-349. 1907.

sian Tertiary. The present record is based upon abundant and characteristic leaves collected by Dr. L. W. Stephenson from a clay lens in the sands of the Wicomico formation, one and one-fourth miles east of Weldon. One of the specimens is shown in Fig. 1.



FIG. 1. *Liriodendron Tulipifera* Linné, from the Pleistocene of North Carolina.

Rosales

CERCIS CANADENSIS Linné

Penhallow, Amer. Nat. 41: 446. 1907.

The accompanying figure (Fig. 2) shows a characteristic leaf of this species which comes from one and one-fourth miles east of Weldon. It has been previously recorded by Penhallow from the famous interglacial deposits of the Don valley near Toronto and in the modern flora it is said by both Britton and Small to range northward to southern Ontario. Both Sargent and Sudworth give its normal northern range as New Jersey and southern Michigan from which points it ranges southward, to Florida and Mexico. It is essentially a warm temperate type, most of its near relatives being subtropical in habitat. Like the present species in this country *Cercis siliquastrum* Linné of southern Europe has been found in the interglacial deposits of France.

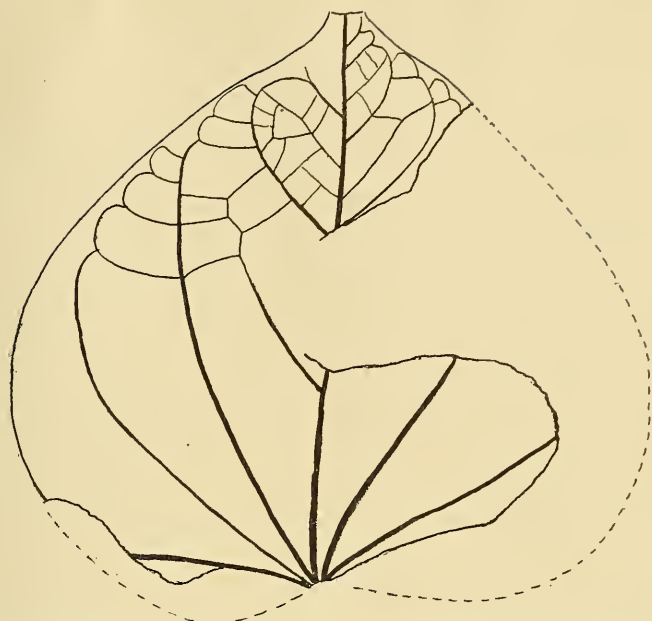


FIG. 2. *Cercis canadensis* Linné, from the Pleistocene of North Carolina.

Ericales

VACCINIUM ARBOREUM Marsh

Berberis sp., Berry Journ. Geol. 15: 343. 1907.

Additional material shows that what was formerly listed as doubtfully referable to *Berberis* is unquestionably the foliage of this species of *Vaccinium*. It is sometimes removed from the latter genus and placed in the genus *Batodendron* of Nuttall. In the modern flora it ranges from North Carolina to Florida and westward to eastern Texas and up the Mississippi to southern Illinois.

Station 850, Neuse River.

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